

CURRENT RESEARCH IN ROYAL NAVY OFFICER SELECTION

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The present Royal Navy Officer selection system derives from the World War 2 developments in the British Armed Forces. At that time serious manpower problems, particularly in the Army, led to the experimental and then executive use of extended assessment systems, which embodied many of the elements of the present day assessment centre (AC) approach. Although the most dramatic innovation was the introduction of group exercises and simulations, it should be emphasised that other applied psychological procedures were adopted, such as psychometric tests and more structured interviews.

The new style Royal Navy procedure was introduced in 1947, and, although there have been changes, the basic characteristics of the procedure are still recognisable. Candidates attend the centre for two days and are grouped for purposes of assessment into groups of five. Civilian candidates are aged between 17 and 25 years, and are in the top 20% of the population in terms of academic achievement. Between 1,500 and 2,000 candidates per year are assessed at the centre.

Their first day is spent completing a biographical questionnaire, taking 4 psychometric tests and a general and Service knowledge test, writing an essay, and being given a brief and practice on the types of group tasks they will face the next day. At the end of the day, the assessors individually review all the written evidence collected (except the psychometric test results), including reference reports from schools, universities and cadet forces. The assessment panel is usually composed of a President (Commodore or Captain, RJ), a Naval Member (Commander, RN), a civilian Headteacher, and a Personnel Selection Officer (usually a Women's Royal Naval Service Officer). The composition varies slightly for Royal Marines and Women's Royal Naval Service candidates.

On the second day the assessors see the candidates for the first time. Candidates undertake two group exercises. One is a "command situation" where each candidate in turn is the nominated leader of the group, which has to meet certain objectives in a physical task. The other is a leaderless group discussion, where candidates are given a written scenario and a problem and told to come up with a group solution. Obviously both these exercises are intended to give the assessors an opportunity to see how each candidate interacts with the other members of the group: who appears most influential, who does not work with fellow members of the team to meet group objectives and so on.

After the group exercises there are two interviews, one with the Personnel Selection Officer and one with the other three panel members. The Personnel Selection Officer's interview concentrates on background factors (domestic circumstances etc), whilst the panel interview covers academic and spare-time activities, reasons for wishing to join the Service, and a number of specific areas (for example, specialisation preferences and encounters with the police).

Once the Personnel Selection Officer has reported back to the other panel members and the Headteacher has made some assessments on academic aspects, the collection of evidence is complete. Each assessor then individually reviews the evidence to arrive at an assessment of the candidate's suitability to enter

training. It must be emphasised that the centre's concern is with the identification of potential and primarily with the prediction of success in initial Officer training, completion of which is usually one to two years in the future. It is not concerned with the prediction of operational performance or promotion. When all assessors have completed this individual review, they each give a mark on a 0-9 scale which summarises their assessment. Candidates are then discussed in turn, assessors giving their own opinions and commenting on those of others, with the President always speaking last. Discussion continues until broad agreement is reached or it is recognised that differences in views are unlikely to be reconciled. Assessors then give a final mark which is aggregated to produce the centre's overall assessment of the candidate in terms of suitability to enter training.

Since the introduction of this form of selection a large number of studies of its validity have been carried out. Research carried out on entrants between 1968 and 1981 (total N = 2144) has shown average correlations of 0.29 between the centre's overall assessment (which is not divulged to trainers) and Professional examination results (in subjects such as Navigation, Engineering and Seamanship) at the Naval College, and 0.39 between the assessment and leadership ratings at the College. The Naval College examination results and the leadership ratings are combined to produce a final class of pass, with which the centre's assessment achieved an average correlation of 0.35. Examination of the individual studies shows an increase in the centre's predictive validity over the above time period. Research on entrants since 1981 has confirmed this trend (correlations of around 0.50 with class of pass at the College).

Table 1 shows the relationship between the centre's assessment and wastage during initial training (some 8 months in duration).

TABLE 1: CENTRE OVERALL ASSESSMENT AND WASTAGE IN ROYAL NAVY OFFICER INITIAL TRAINING (1974-81)

CENTRE ASSESSMENT	N	PERCENTAGE	
		COMPULSORY WASTAGE	VOLUNTARY WASTAGE
Doubtful Potential	258	18	13
Fair Potential with Some Shortcomings	336	12	12
Adequate Potential	216	10	11
Good or High Potential	243	6	14
TOTAL	1053	11	13

It can be seen from Table 1 that although the centre assessment achieved a moderate level of relationship with compulsory wastage (correlation around 0.35), there was no relationship with voluntary wastage. Research on individual parts of the procedure have also shown no relationship between these parts (tests, group exercises etc) and voluntary withdrawal, with the possible exception of the short test of Service knowledge. We have therefore embarked on a number of research projects to determine whether any instruments can be produced which can predict voluntary wastage.

Much of the voluntary wastage occurs very early on in training - within a month of entry to the College - and so one obvious approach is to consider this early withdrawal behaviour as the result of very dramatic mismatch between the entrants' vocational orientation and interests and Naval training as they experiences it. We were aware of the apparently successful use of the Strong Campbell Vocational Interest Blank in predicting wastage at the US Navy Academy, and also favourable results from work with the Canadian Forces. We therefore looked around for a suitable inventory for our use and came up with Holland's Vocational Preference Inventory; here examinees have to indicate their like or dislike for 160 jobs. We have carried out a number of studies on such aspects as candidates' "faking good", and achieved some prediction of voluntary and compulsory wastage using a profile scoring approach, as shown in Table 2.

TABLE 2: VOCATIONAL PREFERENCE INVENTORY PROFILE AND INITIAL TRAINING WASTAGE (1980-81)

PROFILE SCORE	N	PERCENTAGE	
		VOLUNTARY WASTAGE	COMPULSORY WASTAGE
LOW RISK			
3+	107	5	6
0-2	91	22	12
-1 to -2	53	17	13
-3 or less	65	28	20
HIGH RISK			
TOTAL	316	16	12

Table 2 suggests that the profile scoring was tapping some general motivational factor(s) since it was related to voluntary and compulsory wastage. Unfortunately an initial cross-validation did not show any relationship between profile score and wastage, but sample size was relatively small (N = 190, with only 16 and 24 cases of voluntary and compulsory withdrawal respectively).

Another approach has been the development of biographical predictor scores. The systematic use of biographical data has been largely ignored in the UK (in contrast to the USA). Using a set of 52 biographical items, we have constructed predictors of a number of aspects of initial training including voluntary wastage. At the moment cross-validation data are being collected, but in the derivation sample a weighted combination of 18 items correlated around .40 with voluntary withdrawal. Of course, some level of prediction would be expected in the derivation sample and the cross-validation will be the true test of the

score's value. Examination of the items included in the score suggests that entrants with more technical interests, an absence of failure in their academic history, some involvement in relevant cadet forces, and a reasonable level of spare-time activities are less likely to leave voluntarily.

This paper has restricted itself to a brief account of the current RN Officer selection procedure and of some of the research being undertaken to improve the prediction of voluntary withdrawal in training. There are, of course, many other areas of research activity, such as the analysis of how the panel of assessors reach their final assessment and developments in aircrew selection, but there is not time to describe them here. It is, however, hoped that the reader has obtained some idea of the procedures and research efforts taking place in the United Kingdom.

